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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,901	07/03/2003	Masahiko Kamijoh	236205US2	3608

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EXAMINER	
MORRISON, THOMAS A	

ART UNIT	PAPER NUMBER
3653	

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/611,901	KAMIJOH, MASAHIKO	
	Examiner	Art Unit	
	Thomas A. Morrison	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-12,14-19,21-26 and 28-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-12,14-19,21-26 and 28-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the claimed tilt face and contact face each comprising a metal alloy including one of PBT, PE, PEEK and PI was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, claim 7 is indefinite, because claim 7 depends from claim 1, and the metal alloy limitation of claim 7 is inconsistent with the list in claim 1 that is limited to different types of plastic.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5-6, 8, 10-12, 14-19, 21-26 and 28-29 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent Publication No. 20020036377 (Togashi).

Regarding claims 1, Figs. 1-15 and 53 show an image forming apparatus (30), including

an image forming section (near 35); and

a sheet feed apparatus (near4) aligned to feed a sheet to the image forming section (near 35) and having a sheet feed roller (4) in pressing contact with an uppermost sheet of a plurality of sheets, and a tilt member (6) opposing the sheet feed roller (4), the tilt member (6) including a contact face (6b) in pressing contact with the sheet feed roller (4), and a tilt face (6a) in contact with an edge of the uppermost sheet. Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding claim 10, Figs. 1-15 and 53 show a sheet feed apparatus (30), including

a sheet feed roller (4) in pressing contact with an uppermost sheet of a plurality of sheets; and

a tilt member (6) opposing the sheet feed roller (4), the tilt member (6) including a contact face (6b) in pressing contact with the sheet feed roller (4), and a tilt face (6a) in contact with an edge of the uppermost sheet. Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding the "entire tilt member" limitation in claims 8 and 16, Figs. 4-7, 13-15 and 53 show that the tilt member (6) is an entire tilt member.

Regarding claim 17, Figs. 1-15 and 53 show a face for use in a sheet separator tilt member (6) of a sheet feed apparatus (including 4) with both a tilt face (6a) and a contact face (6b). Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding claim 23, Figs. 1-15 and 53 show a sheet feed apparatus (including 4), having

means for sequentially feeding sheets (4) to an imaging device (35); and

means for separating individual sheets with a tilt member (6) with a tilt face (6a) and a contact face (6b). Moreover, the numbered paragraph [0102] specifically states

that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding claim 24, Figs. 1-12 and 53 show a method for feeding sheets to an imaging device, the improvement including

separating individual sheets with a tilt member (6) having a tilt face (6a) and a contact face (6b). Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

With regard to Claims 1-3, 5-6, 8, 10-12, 14-19, 21-26 and 28-29, as mentioned above, the numbered paragraph [0102] of the Togashi publication specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin. Also, in claims 1-3, 5-6, 8, 10-12, 14-19, 21-26 and 28-29, all of the materials listed for the tilt face (6a) and the contact face (6b) of the tilt member (6) (i.e., polybutylene terephthalate (PBT), polyethylene (PE), poly-ether-ether-ketone (PEEK), and polyimide (PI)) are synthetic resins. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to provide the tilt member (6) with a tilt face and a contact face that each include PBT, PE, PEEK or PI, because these materials are all synthetic resins that are preferably used for molding the complex shape of the tilt member (6), as taught by the Togashi publication. See, e.g., numbered paragraph [0102] of the Togashi publication.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0036377 (Togashi) as applied to claim 8 above, and further in view of U.S. Patent No. 6,688,590 (Billings et al.). Fig. 2 of U.S. Patent Publication No. 2002/0036377 shows a support member (10) with guides (8) that support a tilt member (6), but does not specifically disclose that the support member (10) comprises one of the claimed materials.

Billings et al. discloses that it is well known in the art to form a support (32) from ABS plastic. See, e.g., column 4, lines 42-46. It would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the apparatus of U.S. Patent Publication No. 2002/0036377 with a support that includes ABS, e.g., to provide sufficient strength characteristics for the support.

5. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0036377 (Togashi) as applied to claim 1 above, and further in view of the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan". U.S. Patent Publication No. 2002/0036377 (Togashi) discloses most of the features of claim 30. As mentioned above in the rejection of claim 1, the numbered paragraph [0102] of the Togashi publication specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin. Morever, all of the materials listed for the tilt face (6a) and the contact face (6b) (i.e., polybutylene terephthalate (PBT), polyethylene (PE), poly-ether-ether-ketone (PEEK), and polyimide (PI)) are synthetic resins.

In addition, the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan" explains the use of PBT in office automation (e.g., printers), and explains that PBT is suitable for injection molding and has good mechanical properties including large abrasion resistance and low friction resistance. See Introduction on page 5 and pages 8-9. Fig. 1 and page 6 of this article also disclose characteristics of PBT reinforced with glass ("PBT/GF") and disclose the improvements in tensile strength, rigidity and dimensional stability when glass fiber is added to such plastic. It would have been obvious to one of ordinary skill in the art at the time the invention was made, to provide the tilt member (6) with a tilt face and the contact face that include glass reinforced PBT, because such materials is a synthetic resin that is preferably used for molding the complex shape of the tilt member (6), as taught by the Togashi publication. See, e.g., numbered paragraph [0102] of the Togashi publication. Also, the glass fibers provide improved tensile strength, rigidity and dimensional stability, as taught by the article entitled "Application of Engineering Plastic Materials to Office Automation and Audio-Visual Appliances in Japan".

6. Claims 1, 3, 8, 10, 12, 16, 17, 19, 23, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0036377 (Togashi) in view of Japanese Publication No. 2002-68511.

Regarding claims 1, Figs. 1-15 and 53 of Togashi show an image forming apparatus (30), including

an image forming section (near 35); and

a sheet feed apparatus (near4) aligned to feed a sheet to the image forming section (near 35) and having a sheet feed roller (4) in pressing contact with an uppermost sheet of a plurality of sheets, and a tilt member (6) opposing the sheet feed roller (4), the tilt member (6) including a contact face (6b) in pressing contact with the sheet feed roller (4), and a tilt face (6a) in contact with an edge of the uppermost sheet. Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding claim 10, Figs. 1-15 and 53 of Togashi show a sheet feed apparatus (30), including

a sheet feed roller (4) in pressing contact with an uppermost sheet of a plurality of sheets; and

a tilt member (6) opposing the sheet feed roller (4), the tilt member (6) including a contact face (6b) in pressing contact with the sheet feed roller (4), and a tilt face (6a) in contact with an edge of the uppermost sheet. Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding the "entire tilt member" limitation in claims 8 and 16, Figs. 4-7, 13-15 and 53 show that the tilt member (6) is an entire tilt member.

Regarding claim 17, Figs. 1-15 and 53 of Togashi show a face for use in a sheet separator tilt member (6) of a sheet feed apparatus (including 4) with both a tilt face (6a)

and a contact face (6b). Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding claim 23, Figs. 1-15 and 53 of Togashi show a sheet feed apparatus (including 4), having

means for sequentially feeding sheets (4) to an imaging device (35); and

means for separating individual sheets with a tilt member (6) with a tilt face (6a) and a contact face (6b). Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

Regarding claim 24, Figs. 1-12 and 53 of Togashi show a method for feeding sheets to an imaging device, the improvement including

separating individual sheets with a tilt member (6) having a tilt face (6a) and a contact face (6b). Moreover, the numbered paragraph [0102] specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin.

With regard to claims 1, 3, 8, 10, 12, 16, 17, 19, 23, 24 and 26, again, the numbered paragraph [0102] of the Togashi publication specifically states that the tilt member 6 has a complicated shape and that it is preferable that the tilt member 6 be integrally molded of a synthetic resin. Also, in claims 1, 3, 8, 10, 12, 16, 17, 19, 23, 24 and 26, all of the materials listed for the tilt face (6a) and the contact face (6b) of the tilt

member (6) (i.e., polybutylene terephthalate (PBT), polyethylene (PE), poly-ether-ether-ketone (PEEK), and polyimide (PI)) are synthetic resins. In addition, Japanese Publication No. 2002-068511 specifically discloses that it is well known to provide a sheet feeder with a separator (1) comprising polyethylene, in order to provide excellent abrasion resistance and a proper friction coefficient. See English abstract. It would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the apparatus of U.S. Patent Publication No. 2002/0036377 with a tilt member that comprises polyethylene, to provide the proper abrasion resistance and friction coefficient, as taught by Japanese Publication No. 2002-068511.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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